

AMENDMENTS

In the Claims

The following is a marked-up version of the claims with the language that is underlined ("____") being added and the language that contains strikethrough ("—") being deleted:

1. (Currently Amended) A method for multiple inputs, multiple outputs (MIMO) power spectral density (PSD) allocation in a digital subscriber line (DSL) system, the method comprising:

monitoring system performance by performing a multi-ended line test (MELT);
processing the MELT; and

allocating PSD based on at least one of the following: system coupling power and system traffic, the allocating PSD based on system coupling power comprising a full mask control ~~scheme~~, scheme, the full mask scheme configured for a central office to communicate the allocated PSD to a customer premises to re-compute a bit-loading using a seamless rate adaptation (SRA) procedure.

2. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the near end cross talk (NEXT)/ECHO couplings at a customer premises (CP) location.

3. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the near end cross talk (NEXT)/ECHO couplings at a central office (CO) location.

4. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the far end cross talk (FEXT) couplings at a customer premises (CP) location.

5. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the far end cross talk (FEXT) couplings at a central office (CO) location.

6. (Original) The method of claim 1 wherein processing the MELT further comprises processing the MELT by a disruptive method.

7. (Original) The method of claim 1 wherein processing the MELT further comprises processing the MELT by a non-disruptive method.

8. (Original) The method of claim 7 wherein the non-disruptive method further comprises an active method.

9. (Original) The method of claim 7 wherein the non-disruptive method further comprises a passive method.

10. – 12. (Canceled)

13. (Currently Amended) A system for dynamically monitoring and allocating upstream and downstream power spectral density (PSD) of a transceiver set, the system comprising: a monitor for performing multi-ended line tests (MELT);

a controller, responsive to the monitor, for performing multiple inputs, multiple outputs (MIMO) dynamic PSD allocation of upstream and downstream PSD; PSD, the controller further configured to implement a full mask scheme for a central office to communicate the allocated PSD to a customer premises to re-compute a bit-loading using a seamless rate adaptation (SRA) procedure; and

a table of upstream PSD and downstream PSD for each time (t) and each line.

14. (Original) The system of claim 13, wherein the monitor is receptive to a priori information from other system levels.

15. (Original) The system of claim 13, wherein the controller is receptive to a priori information from other system levels.

16. (Currently Amended) A system for multiple inputs, multiple outputs (MIMO) dynamic monitoring and allocation of upstream and downstream power spectral density (PSD) of a transceiver set, the system comprising:

a monitor for performing multi-ended line tests (MELT) on components within the DSL system;

a controller, for performing MIMO dynamic allocation of upstream and downstream PSD for the components within the DSL system, wherein the controller is responsive to at least one of the monitor and a priori knowledge received from components within the DSL system; the controller further configured to implement a full mask scheme for a central office to communicate the allocated PSD to a customer premises to re-compute a bit-loading using a seamless rate adaptation (SRA) procedure; and

a table of upstream PSD and downstream PSD for each time (t) and each line.

17. (Previously Presented) The system of claim 16, wherein the monitor is receptive to a priori information from components within the DSL system.

18. (Previously Presented) The system of claim 16, wherein the multi-ended line tests include at least one of the following:

dynamic determination of near end cross talk (NEXT)/ECHO couplings at a customer premises (CP) location;

dynamic determination of far end cross talk (FEXT) couplings at a central office (CO) location;

dynamic determination of far end cross talk (FEXT) couplings at the CP location; and

dynamic determination of far end cross talk (FEXT) couplings at the CO location.

19. (Previously Presented) The system of claim 16 wherein the controller is further configured to perform MIMO dynamic allocation of upstream and downstream PSD by a disruptive method.

20. (Previously Presented) The system of claim 16 wherein the controller is further configured to perform MIMO dynamic allocation of upstream and downstream PSD by a non-disruptive method comprised of an active method and a passive method.

21. (Previously Presented) The method of claim 1 wherein the allocation of PSD based upon system traffic further comprises implementing a traffic based power swap scheme.

22. (Previously Presented) The method of claim 21 wherein the traffic based power swap scheme includes at least one of the following: an anticipated power swap scheme and a selective power swap scheme.

23. (Previously Presented) The method of claim 21 wherein the allocating PSD based on system coupling power includes at least one of the following: a full mask control scheme, a selective bit control, and a power swap scheme.

24. (New) A system for multiple inputs, multiple outputs (MIMO) power spectral density (PSD) allocation in a digital subscriber line (DSL) system, the method comprising:

means for monitoring system performance by performing a multi-ended line test (MELT);

means for processing the MELT; and

means for allocating PSD based on at least one of the following: system coupling power and system traffic, the allocating PSD based on system coupling power comprising a full mask control scheme, the full mask scheme configured for a central office to communicate the allocated PSD to a customer premises to re-compute a bit-loading using a seamless rate adaptation (SRA) procedure.

25. (New) The method of claim 24 wherein means for performing a MELT further comprises: means for dynamically determining the near end cross talk (NEXT)/ECHO couplings at a customer premises (CP) location.